

Remarks

On November 19, 2003, an Office Action relating to the subject application was mailed. The Office Action rejected all pending claims in the subject application. Applicants respectfully traverse all rejections and respectfully request reconsideration of the pending claims in the subject application.

All of the claims have been rejected based on Xu et al. alone or in combination with other references. However, as understood, Xu et al. relates to laser imaging and spectral analysis system – and generally relates to the detection of defects in semiconductor wafers using both functions of laser imaging and spectral analysis. The present invention It will be shown that there are significant differences between the teachings of Xu et al. and the claimed subject matter.

Claims 10 and 18

Claim 10 was rejected under 35 USC 102(b) as being anticipated by Xu et al. It is well established that a reference cannot anticipate a claim unless every element and limitation recited in the presented claim is disclosed in the cited reference. In other words, the reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present.

In the present matter, there are several differences between the invention as presented in independent claim 10 and the Xu et al. reference. Claim 10 of the present application recites:

An optical inspection system comprising

- a) a source of illumination emitting light in a first direction;*
- b) a mirror having a reflective surface positioned at an angle transverse to the first direction;*
- c) an inspection area illuminated by light reflected from the mirror;*
- d) a camera facing the inspection area; and*
- e) a means for absorbing extraneous light from the source of illumination passing through the mirror, said means positioned on a side of the mirror opposite the source of illumination.*

Among other differences, The Xu et al. reference does not teach nor disclose “*a means for absorbing extraneous light from the source of illumination passing through the*

mirror, said means positioned on a side of the mirror opposite the source of illumination”.

Any suggestion that the beam dump equates to the means for absorbing extraneous light and is positioned as required by the present claim, as taught by the present application is erroneous. Applicants kindly request reconsideration.

Claims 10 and 18 were also rejected under 35 USC 102(e) as being anticipated by Chiang. Again, in addition to other elements and features, Chiang fails to teach or disclose “*a means for absorbing extraneous light from the source of illumination passing through the mirror, said means positioned on a side of the mirror opposite the source of illumination”.*

Claims 1-9 and 11-18

Claims 1-9 and 11-18 were rejected under 35 USC 103(a) as being unpatentable over Xu et al. in view of various secondary references. Applicants traverse this rejection for the same reasons outlined above. In addition, there is no teaching or suggestion to make the combinations suggested by the Office Action.

Conclusion:

Applicant contends that the application is now in condition for allowance. A notice to that effect is earnestly solicited.

No new matter has been added and no new claim fees are due since the number of pending claims does not exceed the number previously paid for. A petition for an extension of time and appropriate fee are included. The Commissioner is also hereby authorized to charge Deposit Account Number 20-0515 for any fee deficiency, or to credit this Deposit Account Number for any overpayment.

Respectfully Submitted,



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Claim Listing

1. (original) An optical inspection system comprising:
 - a) a beam splitter having at least a first, second and third ports;
 - b) a source of illumination connected to a first port of the beam splitter;
 - c) a camera connected to a second port of the beam splitter;
 - d) an inspection area facing the third port of the beam splitter;
 - e) a light trap connected to the beam splitter, the light trap having an angled surface and a cavity.
2. (amended) The optical inspection system of claim 1 wherein the light trap comprises a cylinder with a conical member disposed therein.
3. (original) The optical inspection system of claim 2 wherein the conical member has a parabolic outer surface.
4. (original) The optical inspection system of claim 1 wherein the light trap has an aperture positioned to receive light in a first direction and the angled surface is angled to reflect light from the first direction into the cavity.
5. (original) The optical inspection system of claim 1 wherein the angled surface is made of light absorbing material.
6. (original) The optical inspection system of claim 1 wherein the cavity is bounded by walls and the walls of the cavity are made of light absorbing material.
7. (original) The optical inspection system of claim 1 wherein the cavity has interior walls and the interior walls of the cavity and the angled surface are made of anodized aluminum.
8. (original) The optical inspection system of claim 1 wherein the angled surface is made of a reflective material and is positioned to reflect light into the cavity, and wherein the cavity is bounded by walls made of light absorptive material.
9. (original) The optical inspection system of claim 1 wherein the light trap comprises a plurality of angled surfaces and a plurality of cavities.

10. (original) An optical inspection system comprising:
 - a) a source of illumination emitting light in a first direction;
 - b) a mirror having a reflective surface positioned at an angle transverse to the first direction;
 - c) an inspection area illuminated by light reflected from the mirror;
 - d) a camera facing the inspection area; and
 - e) a means for absorbing extraneous light from the source of illumination passing through the mirror, said means positioned on a side of the mirror opposite the source of illumination.
11. (original) The optical inspection system of claim 10 wherein the means for absorbing extraneous light comprises a surface angled to reflect extraneous into a cavity.
12. (original) The optical inspection system of claim 11 wherein the cavity is bounded by walls and the walls are made of light absorptive material.
13. (original) The optical inspection system of claim 11 wherein the means for absorbing extraneous light comprises a surface having a plurality of projections formed thereon, each projection have a surface angled with respect to the direction of travel of extraneous light passing through the mirror.
14. (original) The optical inspection system of claim 11 wherein the means for absorbing extraneous light includes a cone.
15. (original) The optical inspection system of claim 14 wherein the cone has an outer surface made of light absorbing material.
16. (original) The optical inspection system of claim 10 wherein the means for absorbing light comprises a conical structure having an opening therein.
17. (original) The optical inspection system of claim 10 wherein the means for absorbing extraneous light comprises a reflective surface reflecting extraneous light away from the mirror.
18. (original) The optical inspection system of claim 10 additionally comprising a computer connected to the camera.